

2016 ZIKA AND FUTURE THREATS INNOVATIONS

Grants awarded to smart and scalable solutions

VECTOR CONTROL



Monash University	Scaled deployment of Wolbachia-infected mosquitoes to block disease transmission
Michigan State University	Wolbachia-infected mosquitoes to suppress population and block disease
Trustees of Indiana University	Natural yeast-based larvicide
Johns Hopkins University	Chromobacterium: an environmentally friendly biopesticide

PERSONAL/ HOUSEHOLD PROTECTION



Barcelona Institute for Global Health	Electric force field to repulse mosquitoes
Ifakara Research Institute	Low-cost treated Sandals to prevent bites
Liverpool School of Tropical Medicine	Low-tech treated fabric for outdoor use
QIMR Berghofer Medical Research Inst.	Low-cost treated wall hangings for indoor use
Johns Hopkins Bloomberg School of Public Health	Human scent mimic mosquito trap

VECTOR SURVEILLANCE



Stanford University	MosquitoFreq: Crowdsourced detection of mosquito species using simple Flip Phones
University of Queensland	Near infrared spectroscopy to detect transmission hotspots
Stanford University	VectorChip: Design and testing for pathogen identification tools in wild mosquito populations
Sao Paulo University	Intelligent trap to enhance Zika surveillance
Johns Hopkins University	VectorWEB: Low-cost network of cloud connected ovitraps

COMMUNITY ENGAGEMENT



Institute for Global Environmental Studies	Mosquito Challenge Community Campaign: Kid citizen science to combat Zika
Johns Hopkins Center for Communications Programs	Rapid Habit Optimization Tool (R-SHOT): Field tool for recommending optimal habits and motivational tactics

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2016 ZIKA AND FUTURE THREATS INNOVATIONS, CONT'D

DISEASE SURVEILLANCE



Premise Data	Citizen-led disease risk mapping and vector monitoring
Real Impact Analytics	Monitoring population movement to determine areas prone to disease outbreak
Dimagi/Mt. Sinai	Big data and machine-based learning to identify data cold spots to forecast disease hotspots
International Society for Infectious Diseases	Partnership for real-time mapping of disease transmission risk from one country to another

DIAGNOSTICS



J. Craig Venter Institute	Rapid identification of peptides to speed development of Zika diagnostics
Abbott's Ibis Biosciences Business	Rapid, handheld point of care diagnostic for ZIKV, DENV, and CHIKV
BluSense Diagnostics	Viro-Track: Rapid point of care diagnostics for ZIKV, DENV, and CHIKV using blue ray technology
SystemOne	Aspect™ IoT software and portability pack to diagnose patients in the hardest-to-reach areas

UNMANNED AERIAL VEHICLES



Vayu	Use of UAVs for delivery/pick-up of medical products and samples
WeRobotics	Mosquito release mechanism on UAVs to support mosquito control

These innovations are in response to the
Combating Zika and Future Threats Grand Challenge
 issued by USAID in April 2016 to find smart and scalable ideas that can
 address the current Zika outbreak and help prevent, detect, and
 respond to future infectious disease outbreaks.

More information at www.usaid.gov/grandchallenges/zika